

27. (New) The method of claim 26, wherein cliques having two or more neighbors that were assigned time slots in step (f) are next assigned time slots.

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28. (New) The method of claim 27, wherein cliques having a node that is not included in a clique that has previously been assigned a time slot are next assigned time slots.

29. (New) The method of claim 28, wherein cliques that have not yet been assigned a time slot are assigned time slots.

REMARKS

Applicants thank the Examiner for a timely and careful review of the application in the Office Action dated April 10, 2002. Regarding the objections and rejections set forth by the Examiner, applicants request reconsideration of the application in light of the remarks contained herein.

The Examiner objected to claims 5 and 18 because of informalities. These claims are canceled by this amendment, thereby rendering moot the objections thereto.

The Examiner rejected claims 1-19 under 35 U.S.C. § 112, second paragraph, asserting that the claims are indefinite. Applicants have canceled claims 3-19 without prejudice, thereby rendering moot the rejections thereto. With respect to claims 1 and 2, applicants have amended the claims to more particularly point out and distinctly claim what applicants regard as the invention. Attached hereto is a Marked-up Version Showing Changes Made to the Claims. The amendments are fully supported by the specification and drawings as originally filed. No new matter is entered by this amendment.

Specifically, applicants have amended claim 1 to recite that each node is assigned "to at least one of a plurality of cliques, wherein each of the plurality of

cliques comprises a plurality of nodes that are positioned to directly communicate with each other." This clause replaces the phrase "applying clique activation," which the Examiner found unclear. This clause also more clearly defines a clique, and the Examiner's rejection of claim 2 under 35 U.S.C. § 112 should therefore be withdrawn as well.

The Examiner rejected claim 1 under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 5,719,868 to Young. Applicants respectfully traverse this rejection.

Claim 1 of Young recites the following steps that are not found in applicants' amended claim 1:

(1) announcing and transmitting from a first node during a specific time slot, a selected transmit slot and frequency and the identification of a second node to all neighboring nodes of the first node comprising a first set of neighboring nodes;

(2) transmitting from the first node a control packet containing:

the set of transmit slot and frequency pairs on which the first node is transmitting;

the set of slot and frequency pairs on which the first node is receiving; and

the set of slot and frequency pairs on which the first set of neighboring nodes are transmitting on; and

(3) identifying in the tables of each of the nodes of the first set of neighboring nodes the announced selected transmit slot and frequency between the first and second nodes.

Furthermore, claim 1 of Young does not include the concept of a clique as defined in applicants' amended claim 1. Applicants have defined a clique as consisting of a plurality of nodes that are positioned to directly communicate with each other. The "neighborhoods" disclosed and claimed by Young (and as shown in Figure 1 of Young) clearly include nodes that do not directly communicate with every node within its assigned neighborhood. The concept of cliques is neither disclosed, taught, or suggested by Young, and applicants' invention as recited in

amended claim 1 is not simply an obvious variation of claim 1 of Young. Likewise, because of the differences between the claims at issue (as recited above), claim 1 of Young is not simply a mere generic representation of applicants' amended claim 1. Applicants' amended claim 1 is therefore allowable over claim 1 of Young.

The Examiner rejected claim 1 under 35 U.S.C. § 102(b) as being unpatentable over Young. Applicants respectfully traverse this rejection. As previously explained, applicants' amended claim 1 recites that each node is assigned to at least one of a plurality of cliques, wherein each of the plurality of cliques consists of a plurality of nodes that are positioned to directly communicate with each other. The "neighborhoods" disclosed and claimed by Young (and as shown in Figure 1 of Young) clearly include nodes that do not directly communicate with every node within its assigned neighborhood. The concept of cliques, as defined in amended claim 1, is neither disclosed, taught, or suggested by Young, and applicants' amended claim 1 is therefore allowable over Young. All claims (including claim 2) depending from allowable claim 1 are therefore allowable for at least the same reasons.

Applicants have inserted new claims 20-29 into the application. These claims all depend either directly or indirectly from allowable claim 1 and are therefore allowable for at least the same reasons claim 1 is allowable. Furthermore, claim 20 recites that the assigning step for each node comprises: (a) identifying one of the nodes; (b) identifying a first group of nodes, said first group of nodes comprising any nodes that directly communicate with said one of the nodes; (c) for each node in the first group of nodes, identifying a second group of nodes, said second group of nodes comprising any nodes that directly communicate with said each node in the first group of nodes; (d) including within a clique with said one of the nodes, a node in said first group of nodes and a node in said second group of nodes that communicates directly with said one of the nodes node and with said node in said first group of nodes; and (e) identifying all possible cliques to which said one of the nodes belongs by

repeating steps (b), (c), and (d) until all possible combinations of nodes have been explored. This is neither disclosed nor suggested by Young, and claim 20 is therefore allowable.


Claim 21 depends from allowable claim 20 and further recites that steps (a) through (e) are repeated for each node in the network of nodes. Claim 22 depends from allowable claim 1 and further recites the step of choosing time slots for each clique. These steps are neither disclosed nor suggested by Young, and claims 21 and 22 are therefore allowable.

Claims 23-29 depend from allowable claim 22 and further recite that the step of choosing time slots comprises assigning time slots to the cliques according to a hierarchy wherein: (f) cliques having a node that is a member of only one clique are first assigned time slots; (g) cliques having at least as many neighboring cliques as any neighboring clique are next assigned time slots; (h) cliques having two or more neighbors that were assigned time slots in steps (f) and (g) are next assigned time slots; cliques having two or more neighbors that were assigned time slots in step (f) are next assigned time slots; cliques having a node that is not included in a clique that has previously been assigned a time slot are next assigned time slots; and cliques that have not yet been assigned a time slot are assigned time slots. These limitations are not found in Young or in the remainder of the cited art, and claims 23-29 are therefore allowable.

Accordingly, with the entry of this amendment and upon consideration of the remarks contained herein, all pending claims are now allowable, and a Notice of Allowance is earnestly solicited. The Examiner is requested to contact the undersigned attorney if further issues remain in the prosecution of this application.

Respectfully submitted,

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MARKED-UP VERSION
SHOWING CHANGES MADE TO THE CLAIMS

Shown below are amendments to the claims, in which bracketed material has been deleted and underlined material has been added.

Claim 1 has been amended as follows:

1. (Once amended) A method for automatically managing the communication channel resources between two transceiver nodes having neighboring transceiver nodes in a network of transceiver nodes, wherein each node communicates during specific time slots and uses multiple frequencies on a time multiplex basis, the method comprising:

storing possible communication time slots and frequencies between nodes in the network at each transceiver node; and

[applying clique activation] assigning each node to at least one of a plurality of cliques, wherein each of the plurality of cliques consists of a plurality of nodes that are positioned to directly communicate with each other, wherein multiple transceiver nodes in a clique utilize the same time slot for transmitting.

Claims 3-19 have been canceled without prejudice.